

REMARKS

Claims 1-36 are all the claims pending in the application. Claims 1, 7, 14, 17, 21, 26, 30 and 34 have been amended to further describe patentable aspects of the invention which are not taught or suggested by the current art of record. No new matter is added.

In particular, the Examiner maintains that claims 1, 3-5, 7-12, 14, 16-22, 24, 26-28, 30-31 and 33-36 under 35 U.S.C. 103(a) as being unpatentable over Hartung et al. ("Hartung") in view of Holmes et al. ("Holmes"). Specifically, the Examiner asserts that it would have been obvious to apply the video image encoding technique of Hartung to the spectrogram of Holmes. The Examiner notes that although Hartung is focused on video encoding, the method can be applied to a single image since each frame of video is a single image. Further, Holmes' spectrogram inherently contains time-frequency information. So when Hartung's encoding technique is applied to a spectrogram, it results in Applicants' claimed invention. Applicants respectfully disagree with the Examiner's position.

Claim 1, as amended, recites:

(a) performing a time-frequency transformation on an input audio signal and generating a time-frequency band table by dividing the transformed input audio signal into a plurality of frequency blocks in each frame and a time-frequency index combination;

(b) based on the generated time-frequency band table, searching for a nearest neighbor block of a block being currently encoded, and generating information on the nearest neighbor block; and

(c) generating a bitstream containing the generated information on the nearest neighbor block.

The time-frequency table in the present invention is for searching for the nearest neighbor block, while the spectrogram in Holmes is for displaying a spectrogram to interpret a Fourier

Transform easily. In other words, the time-frequency table in the present invention includes data of “scalar type,” the data being obtained through a time-frequency transformation (for example, an MDCT transformation), while the spectrogram in Holmes includes data in a graph form that is easily for interpreting the characteristics of a signal. Thus, the spectrogram in Holmes is not appropriate for searching for the nearest neighbor block, because, although the data type is advantageous to interpret the characteristic of a signal, it is disadvantageous to compare signals for searching for the nearest neighbor block. In making the rejection, the Examiner must consider all teachings, including any disclosure in the cited art that teach away from the claimed invention. Accordingly, the spectrogram in Holmes does not correspond to the time-frequency table in the present invention (e.g., claim 1). Furthermore, applying Hartung's encoding technique to the spectrogram does not result in the time-frequency table of claim 1. Also, neither Hartung or Holmes teaches “performing a time-frequency transformation on an input audio signal and generating a time-frequency band table by dividing the transformed input audio signal into a plurality of frequency blocks in each frame and a time-frequency index combination.”

Since Hartung, alone or in combination with Holmes, fails to teach each and every feature of claim 1, Applicants submit that claim 1 is patentable for at least this reason.

Since independent claims 7, 14, 17, 21, 26, 30 and 34 contain features similar to the features of claim 1, claims 7, 14, 17 21, 26, 30 and 34 are patentable for reasons analogous to those presented above in conjunction with claim 1.

Furthermore, Applicants submit that the remaining dependent claims (claims 3-5, 8-12, 16, 18-20, 22, 24, 27-28, 31, 33 and 35-36) are patentable at least by virtue of their dependencies.

The Examiner rejects claims 2, 15, 23 and 32 under 35 U.S.C. 103(a) as being unpatentable over Hartung in view of Holmes and in further view of Nakamura (US 6,226,325). However, Nakamura fails to correct the deficiencies of Hartung and Holmes presented above.

The Examiner rejects claims 6, 13, 25 and 29 under 35 U.S.C. 103(a) as being unpatentable over Hartung in view of Holmes and in further view of Zibman et al. (US 4,748,579 "Zibman"). However, Zibman fails to correct the deficiencies of Hartung and Holmes presented above.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

AMENDMENT UNDER 37 C.F.R. § 1.114(c)
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